

**BY ORDER OF THE COMMANDER
MARCH AIR RESERVE BASE**

**MARCH AIR RESERVE BASE
INSTRUCTION 21-136**



26 AUGUST 2013

MAINTENANCE

**CRASHED, DAMAGED OR DISABLED
AIRCRAFT RECOVERY PROCEDURES
(CDDAR)**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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(Col Robert R. Stormes)

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This Instruction implements Air Force Policy Directive (AFPD) 21-1, *Air and Space Maintenance*. This instruction extends the guidance of Air Force Instruction (AFI) 21-101 *Aircraft and Equipment Maintenance Management*, AFI 10-2501 *Air Force Emergency Management (EM) Program Planning and Operations*, TO 00-80C-1 *Crashed, Damaged, Disabled Aircraft Recovery Manual* and T.O. 00-35D-54 *USAF Deficiency Report, Investigation, Resolution*. These higher headquarters publications must be read and adhered to in conjunction with this instruction. This instruction is applicable to all personnel performing duties on March Air Reserve Base. This instruction supersedes MOI21-136, 8 May 2008. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) listed above using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. Requests for waivers must be submitted through chain of command. Requests for waivers must be submitted to the OPR listed above, or as otherwise stipulated within this publication, for consideration and approval. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

1. General. This publication provides local guidance for aircraft recovery/removal in the event of crash, damaged or disabled aircraft. The Crashed, Damaged, Disabled Aircraft Recovery (CDDAR) program is designed to recover a crash, damaged or disabled aircraft in a minimum amount of time, with consideration given to the requirements of opening runways for operational use, preventing secondary damage to the aircraft and preserving evidence for mishap or accident investigation. Refer to March Air Reserve Base Comprehensive Emergency Management Plan (CEMP) 10-2 and 452 AMW Mishap Response Plan for related response requirements and for response in area of responsibility.

1.1. March ARB has one active runway. If an aircraft crash-lands, it may be necessary to clear the aircraft/wreckage as soon as possible to facilitate reactivation of the runway for alert F-16 and KC-135 aircraft. If necessary, this action will be directed by the 452d Air Mobility Wing Commander.

2. Responsibilities.

2.1. The Incident Commander (IC), as determined by TO 00-80C-1 and AFI 10-2501, is the person in charge at the incident until all emergency response actions are completed. Transfer of command to recovery organizations (to include the CDDAR Team Chief) will occur after the hazard mitigation is complete.

2.2. The Emergency Operations Center (EOC), under the authority of the EOC Director, develops a recovery plan, which will be approved by the IC before it is implemented.

2.3. Unit commanders will be familiar with the CEMP 10-2 and 452 AMW Mishap Response Plan. They will ensure requirements levied on personnel and/or equipment within their unit are achieved to meet CDDAR operational needs.

2.3.1. The 452d Maintenance Group Commander or designated representative will:

2.3.2. Be the point of contact for Aircraft Maintenance for the purpose of accomplishing all duties and responsibilities.

2.3.3. Ensure ground maintenance operations within 1000 feet of aircraft incident/mishap involving advanced aerospace materials/composites cease, until advised by Bioenvironmental Engineer (BEE) on hazards, protective equipment and procedures required.

2.3.4. Respond accordingly with requests to obtain weapons system-specific hazardous information pertaining to the mission design series aircraft involved in mishaps and provide such information to the IC or Senior Fire-fighting Official (SFO) on an as-needed basis.

2.3.5. Direct the acquisition and use of necessary aircraft maintenance related equipment to support all phases of the accident response/recovery/investigation.

2.4. Civil Engineering Environmental Management (EM) and BEE will advise the EOC and IC of hazardous material handling procedures. The Hazardous Materials (HAZMAT) response team will mitigate release of HAZMAT materials and the Civil Engineering EM will ensure clean-up and disposal of all hazardous materials are accomplished per the Facility Response plan and Hazardous Materials Business Emergency Plan.

2.4.1. The BEE will advise the EOC Director and IC on the type(s) of personal protective equipment (PPE) required to perform recovery of an aircraft containing composite/hazardous materials from the BEE recommended procedures list and TO 00-80C-1.

2.4.2. In consultation with the CDDAR team chief, BEE will provide annual briefings to the CDDAR team of their responsibilities, duties, appropriate PPE usage and types that may be required to eliminate possible health hazards.

2.4.3. The BEE will be available during crash recovery operations to provide exposure monitoring of personnel involved in CDDAR and clean-up operations, to include respirator fit testing, heavy metal testing or other necessary evaluations.

2.5. The 452d Air Mobility Wing Safety Office (452 AMW/SE) will:

2.5.1. Advise the IC and EOC Director of safety hazards and concerns to ensure safe aircraft recovery operations and provide CDDAR team chiefs with assistance and guidance in obtaining resources as needed to rectify unsafe conditions.

2.5.2. Provide a munitions representative for issues involving aircraft containing explosives-related hazards. If unavailable, 452 AMW/SE will coordinate with the Maintenance Representative for acquiring munitions personnel from the MXG to accomplish Munitions Representative duties.

2.6. The 452 MXG/MXQ, Quality Assurance (QA) Superintendent or designated representative will:

2.6.1. Ensure all aircraft AFTO Form 781 series forms, servicing equipment and personnel training records are impounded upon notification of an accident/mishap.

2.6.2. Inform the Maintenance Operations Center (MOC) to lock-out and/or isolate G081 records on the affected aircraft.

2.6.3. Provide aircraft weight and balance program support to the CDDAR team chief, as requested.

2.7. The CDDAR team chiefs will:

2.7.1. Be listed on the Special Certification Roster (SCR), the base emergency and mobilization rosters for contact after normal duty hours.

2.7.2. Conduct an annual briefing with all the agencies involved in the CDDAR process. The briefing will outline the CDDAR team responsibilities. A tabletop exercise will also be conducted to verify validity of telephone numbers, exercise checklists, as well as personnel capabilities. Possible responses will be discussed to evaluate preparedness to various scenarios.

2.7.3. Ensure the CDDAR equipment is listed, maintained and prepared to rapidly deploy crash recovery equipment and personnel for aircraft as directed by HQ AFRC/A4R.

2.7.4. Direct and coordinate all CDDAR operations as instructed by the IC or EOC. The IC or EOC will contact the CDDAR Team Chief when incident area is safe for recovery

operations to begin. The CDDAR Team Chief will complete the Crashed, Damaged or Disabled Aircraft Recovery Team Chief Checklist.

2.7.5. Report to the assembly area (with the required team members), as determined by the maintenance representative.

2.8. The Maintenance Operations Center (MOC) will:

2.8.1. Act as the Unit Control Center (UCC) for the MXG and accomplish all telecommunications necessary to support the recovery operations.

2.8.2. Maintain an events log of all pertinent and significant facts/events that take place during CDDAR operation(s).

2.8.3. Contact the 50th or 56th Aerial Port Squadron who will provide an all-terrain forklift and driver when the requirement has been communicated by the IC.

2.8.4. Contact the Base Fuels Office, who will stand by to provide de-fueling vehicle(s) as directed by the IC.

2.8.5. Maintain a current copy of CDDAR Team Chief Recall Roster.

2.8.6. Contact aircraft owning squadron Production Superintendent or supervisor (e.g., 452d Aircraft Maintenance Squadron (AMXS), 752 AMXS, Transient Alert and Aero Club) for in-flight emergency (IFE) response.

2.9. 452d Logistics Readiness Squadron (LRS)/LGRVO (Vehicle Operations) will: provide a truck-tractor to transport the CDDAR trailer as directed by the EOC to the accident site during normal duty hours (LGRVO after normal duty hours). In the event of an off-base accident/incident, Vehicle Operations support may be requested through the EOC to provide transport of the CDDAR team and equipment to the site if a qualified operator is available. If a crane is required, contact the local area crane company. (See Attachment 2 for contact information.)

3. Requirements.

3.1. A minimum initial response CDDAR Team will consist of the CDDAR Team Chief and six team members with all or some possessing the following certifications: flight line driver's license (minimum two personnel) and forklift driver's license (minimum one person).

3.2. The recovery team, at a minimum, will consist of a CDDAR Team Chief and a team of personnel based upon condition of aircraft and environment. See current Letter of Delegation for CDDAR Members in continuity book.

3.3. Lifting equipment, PPE and CDDAR tools/consumables are contained in a CDDAR Trailer and thirteen lifting airbag containers. Additional tools that may be needed are listed in TO 00-80C-1, Chapter 5. Contact HQ AFRC/A4MY for assistance with obtaining additional needed equipment not on hand.

3.4. WARNING: Incidents involving aircraft made up of a composite structure may cause serious injury or death to those in contact with it; BEE has established a minimum list of PPE for this hazard: respirator-full face with P-100 filters, Tyvek suite w/hood, nitrile/leather gloves, steel-toe work boots and safety goggles or face shields.

4. Aircraft Recovery 144th Fighter Wing Coordination.

- 4.1. When the incident aircraft involves a 144 FW F-16, the 452 AMW Command Post/MOC will immediately notify the Air National Guard (ANG) Operations Control Center.
- 4.2. Due to the sensitive nature of the ANG mission, recovery efforts of the F-16 will be coordinated by 144 FW personnel.
- 4.3. If incident aircraft is configured with sensitive equipment, ANG Emergency Reclamation Team actions to secure equipment will take precedence over aircraft recovery efforts. However, airframe recovery preparations and equipment reclamation may occur concurrently.
- 4.4. The 452 AMW CDDAR team will provide all on-station assets available.
- 4.5. Will respond to their owning aircraft for IFE Response.

5. Transient Aircraft Responsibilities.

- 5.1. CDDAR equipment on station is limited to assigned home station airframe. The 452 MXG/CC will ensure additional special equipment and unique requirements for transient aircraft and Aero Club are obtained from applicable sources as directed by HQ AFRC/A4MY (Attachment 2).
- 5.2. CDDAR team chief will notify MOC to contact owning organization to obtain necessary expertise and guidance from appropriate sources. [For Headquarters AMC transient aircraft, MOC will contact the home base through HQ AMC/XOCL at DSN 229-1963.] Transient aircraft home bases and BEE must be contacted to determine composite material risks and requirements for PPE. All team members will be briefed on special requirements/health and safety concerns associated with transient aircraft recovery.
- 5.3. All base organizations will provide assistance with transient aircraft (including civilian aircraft) recovery operations as directed.
- 5.4. CDDAR support for Geographically Separate Units (GSUs) will be provided as required.
- 5.5. Transient Alert/Aero Club will respond to their owning aircraft for IFE Response (if required).

6. Safety Precautions and Considerations Prior To Aircraft Movement.

- 6.1. WARNING: Verify that it is safe to approach the aircraft. Ensure all explosives, ejection seat cartridges, tires, fluids, flares and munitions are de-armed, expended or otherwise proclaimed safe by the fire department or EOD.
 - 6.1.1. WARNING: Make sure the aircraft remains stable at all times and that personnel use extreme caution when working in and around a disabled aircraft. Before any ground handling activities take place on or around the aircraft, CDDAR personnel will ensure that it is properly stabilized to prevent movement or shifting. It may be necessary to moor the aircraft or stabilize it using air bags.
 - 6.1.2. WARNING: Due to the many unknown factors of airframe condition immediately following a crash landing, do not attempt to use special equipment or procedures not

included in the specific aircraft technical orders, or without approval of the specific airframe system manager/engineer. The owning agency of any transient aircraft will be contacted for technical advice pertaining to the specific aircraft.

6.2. Damaged incident aircraft, or any parts, will not be moved until authorized and directed by the ISB/SIB President or the wing Flight Safety Officer. Any movement of the aircraft from the site will be under the direct supervision of the aircraft mishap investigation board member.

6.3. Safe and lighten the aircraft to the maximum extent possible by:

6.3.1. Grounding the aircraft.

6.3.2. Removing the aircraft batteries.

6.3.3. Completely defueling and purging the tank areas.

6.3.4. Contain and clean up any clean fuel or hydraulic oil leakage.

6.3.5. Removing all oxygen containers from the aircraft and bleed any oxygen from associated lines.

6.3.6. Downloading unnecessary equipment and cargo.

7. Off-base Crash Recovery Considerations.

7.1. In coordination with the civilian Incident Commander, the CDDAR Team Chief will visit the site to review the situation to determine equipment requirements prior to dispatching the entire team.

8. Support for CDDAR and contact after Normal Duty Hours.

8.1. During non-duty hours, all CDDAR team members will report to the base immediately upon being notified. The CDDAR Team Chief may request additional maintenance personnel support, as needed, by contacting the MOC.

8.2. Contact 452 LRS/LGRV (Vehicle Manager) Supervisor for driver and tractor support for the CDDAR Trailer.

8.3. See the CDDAR Continuity Book, located with Team Chief, for current memorandums and support agreements.

8.4. 452/752 AMXS will respond to their owning aircraft for IFE Response (if required).

SAMUEL C. MAHANEY, Col, USAFR
Commander, 452d Air Mobility Wing

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 21-1, *Air and Space Maintenance*, 25 Feb 03

AFI 21-101, *Aircraft and Equipment Maintenance Management*, 26 Jul 2010

AFI 10-2501, AFRC Sup 1, *Air Force Emergency Management (EM) Program Planning and Operations*, 23 August 2011

AFMAN 33-363, *Management of Records*, 1 Mar 08

452 AMW CEMP 10-2, *Comprehensive Emergency Management Plan*, 28 January 2008

TO 00-80C-1, *Crashed, Damaged, Disabled Aircraft Recovery Manual*, 5 October 2011

Forms Adopted

AF IMT 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

A4R—Logistics Readiness Division

A4M—Maintenance Division

A4MY—Global Reach

AFB—Air Force Base

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

AMC—Air Mobility Command

AMXS—Aircraft Maintenance Squadron

AMW—Air Mobility Wing

ANG—Air National Guard

AW/SE—Airlift Wing Safety Office

BEE—Bioenvironmental engineer

CC—Commander

CDDAR—Crash, Damaged, or Disabled Aircraft Recovery

CEMP—Comprehensive Emergency Management Plan

Comm—Commercial

CRT—Crash Recovery Team
CV—Vice Commander
DSN—Defense Switching Network
EOD—Explosive Ordnance Disposal
EM—Emergency Management
EOC—Emergency Operations Center
FW—Fighter Wing
GSU—Geographically Separated Unit
HAZMAT—Hazardous Material
HQ—Headquarters
IAW—In Accordance With
IC—Incident Commander
IFE—In-Flight Emergency
ISB—Interim Safety Board
LGRV—Logistics Readiness Vehicle Manager
LGRVO—Logistics Readiness Vehicle Operations
LRS—Logistics Readiness Squadron
MARBI—March Air Reserve Base Instruction
MOC—Maintenance Operations Center
MXG—Maintenance Group
MXMT—Maintenance Flight
MXS—Maintenance Squadron
OPR—Office of Primary Responsibility
ORM—Operational Risk Management
PPE—Personal Protective Equipment
QA—Quality Assurance
RDS—Records Disposition Schedule
SCR—Special Certification Roster
SFO—Senior Fire-fighting Official
SIB—Safety Investigation Board
TACC—Tanker/Airlift Control Center
T.O.—Technical Order

UCC—Unit Control Center

Attachment 2**POINT OF CONTACT LIST – KEY PERSONNEL AND RESOURCES**

All Star Crane Services

951-788-9808

For AMC Aircraft: Tanker Airlift Control Center (TACC),

Scott AFB, ILLINOIS.

Comm: 1-800-247-6625

AFRC Crash Recovery Superintendents:

A) HQ AFRC/A4MY: DSN: 497-1645/1627 Comm: 478-327-1645/1627

B) 4AF/A4MY: DSN: 447-7643 Comm: 951-655-7643

C) 10AF/A4M: DSN: 739-5155 Comm: 817-782-5189

D) 22AF/A4M: DSN: 625-3853 Comm: 678-655-3853